

**Ch 2q23-q31**

**Centromere**

1cM

D2S142

D2S284

4cM

D2S156/

4cM

D2S354

D2S111

5cM

D2S294

2cM

D2S335

**IGE locus**

6cM

29 cM

2cM

D2S324

2cM

D2S384

D2S152

8cM

**Telomere**

D2S311

**FIGURE 1**

1Ax00.1

NaC-340 TGTGTTCTGCCCCAGTGAGACT

NaC-341 CTTCTGCTCTGCCCAAAGTGAAT

257 bp 53.4C

1Ax00.2

NaC-342 GGCGATGTAATGTAAGGTGCTGTC

NaC-343 GTGCCTTCAGTTGCAATTGTTTCAG

259bp 54.5C

1Ax01.1

NaC-268, TTAGGAATTTTCATATGCAGAATAA,

NaC-269 TGGGCCATTTTTCGTCGTC

201 bp 50.9C

1Ax01.2

NaC-270 GAAAGACGCATTGCAGAAGAAAAGG,

NaC-271 CTATTGGCATGTGTTGGTGCTACA

277bp54.4C

1Ax02

NaC-45 GTGCTGGTTTCTCATTTAACTTTAC,

NaC-46 TTCCCAACTTAATTTGATATTTAGC,

319 bp 49.9C

1Ax03

NaC-87, GCAGTTTGGGCTTTTCAATGTTAG,

NaC-88, GACACAGTTTCARAATCCCRAATG,

234 bp 48.9C

1Ax04

NaC-63, TTAGGGCTACGTTTCATTTGTATG,

NaC-64, AGCACTGATGGAAAACCAAAGTAT,

338 bp 50.8C

1Ax05

NaC-164 AGCCCATGCAGTAATATAAATCCT

NaC-165 TCCAGGCTGATAAGCTATGTCTAA,

488 bp 52.8C

FIGURE 2

1Ax06

NaC-276, CTGTGGCCTGCCTGAGCGTATT,  
NaC-277 CCAATTCTACTTTTTTAAGGAAATG,  
248bp 50.3C

1Ax07

NaC-272, AAATACTTGTGCCTTTGAA,  
NaC-273, GTACATACAATATACACAGATGC  
240 bp 46.7C

1Ax08

NaC-89, AGGCAGCAGAACGACTTGTAATA,  
NaC-90, ATCCGGTTTTAATTCATAACTCA,  
267 bp 51.9C

1Ax09.2

NaC-217 GTTGAGCACCTTAGTGAATAATA,  
NaC-218 TCACACGCTCTAGACTACTTCTCT  
337bp 52.7C

1Ax10a NaC-29, TGCAAATACTTCAGCCCTTTCAAA,  
NaC-30, TTCCCCACCAGACTGCTCTTTC,  
239bp, 55.1C

1Ax10a

NaC-31, GCAGCAGGCAGGCTCTCA,  
NaC-32, TCTCCCATGTTTTAATTTTCAACC,  
293bp, 54.5C

1Ax10b

NaC-67, ATAATCTTGCAAAATGAAATCACA,  
NaC-68, ATCCGGGATGACCTACTGG  
307 bp 53.7C

1Ax10b

NaC-65, GATAACGAGAGCCGTAGAGATTCC,  
NaC-66, AGCCAGCCATGCCTGAACTA  
282bp 56.4C

FIGURE 2 (cont'd)

1Ax10c

NaC-39, TGTTTGCTTGTCATATTGCTCAA,  
NaC-40, TGCACTATTCCCAACTCACAAA,  
286bp, 50.7C

1Ax11.1

NaC-69 AAGGGTGTCTCTGTAAACAAAAATG,  
NaC-70, GTGATGGCCAGGTCAACAAA  
269bp 50.8C

1Ax11.2

NaC-71 CTGGGACTGTTCTCCATATTGGTT,  
NaC-72, TTTGCAGGGGCCAGGAAG  
294 bp 53.3°C

1Ax12

NaC-41 CATTGTGGGAAAATAGCATAAGC,  
NaC-42, GCAAGAACCCTGAATGTTAGAAA,  
334bp, 51.2C

1Ax13.1

NaC-92 TAATGCTTTTAAGAATCATACAAA,  
NaC-93, CCAGCGTGGGAGTTGACAATC,  
256bp, 51.1C

1Ax13.2

NaC-75 CGGCATGCAGCTCTTTGGTA,  
NaC-91, ATGTGCCATGCTGGTGTATTTC,  
277 bp 55.6C

1Ax14.1

NaC-79 CACCCATCTTCTAATCACTATGC,  
NaC-80, CAGCAATTTGGAGATTATTCATT,  
254 bp 50.4C

1Ax14.2

NaC-81 GCAGCCACTGATGATGATAA,  
NaC-82, CTGCCAGTTCCTATACCACTT,  
269 bp 49.4C

FIGURE 2 (cont'd)

1Ax14.3

NaC-83 TACAGCAGAAATTGGGAAAGAT,  
NaC-84, GTATTCATACCTACCCACACCTAT,  
269 bp 50.2C

1Ax15

NaC-202 TTCTTGGCAGGCAACTTATTACC,  
NaC-203 TAAGCTGCACTCCAAATGAAAGAT  
233bp 53.1C

1Ax16.1

NaC-187, GGCTGAATGTTTCCACAACCT,  
NaC-168 GTTCAACTATTCGGAAACACG  
277 bp, 51.4C

1Ax16.2

NaC-188, AGGCAGAGGAAAACAATGG,  
NaC-189, ACAAGGTGGGATAATTAAAAATG  
234 bp, 50.3C

1Ax17

NaC-143, GTTCTCTGCCCTCCTATTCC,  
NaC-144, AAGCTACCTTGAACAGAGACA,  
330 bp, 48.8C

1Ax18

NaC-139, AATGATGATTCTGTTTATTA,  
NaC-140, AATTTGCCATTCCTTTTG,  
272 bp, 46.1C

1Ax19.1

NaC-219 TTGACATCGAAGACGTGAATAATC,  
NaC-220 CCATCTGGGCTCATAAACTTGTA  
285bp 49.3C

1Ax20

NaC-338 CCCTTTGAAAATTATATCAGTAA,  
NaC-339 ATTTGGTCGTTTATGCTTTATTC  
230 bp 47.6C

FIGURE 2 (cont'd)

1Ax21

NaC-252, TCCAGCACTAAAATGTATGGTAAT,

NaC-253, ATTTGGCAGAGAAAACACTCC

261 bp 49.8C

1Ax22

NaC-254, TTTTAGCCATCCATTTTCTATTTT,

NaC-255, TATTTCCCCCATATCATTGA

223 bp 49.1C

1Ax23.1

NaC-256 TTTGCAAGAACTAGAAAGTC,

NaC-257 TTGATGCGTGACAAAATGG

250bp 48.3C

1Ax23.2

NaC-258 GACCAGAGTGAATATGTGACTACC,

NaC-259 CTGGGATGATCTTGAATCTAATC

246bp 49.5C

1Ax24.1

NaC-221 GCAACTCAGTTCATGGAATTTGAA,

NaC-222 CTTGTTTTCGTTTAAAGTAGTA

289bp 56.1C

1Ax24.2

NaC-213 CAAAGATCACCTGGAAGCTCAGTT,

NaC-223 TTCAAGCGCAGCTGCAAAGTGAAT

277bp 55.8C

1Ax24.3

NaC-260 ACATCGGCCTCCTACTCTTCCTA,

NaC-261 ACAGATGGGTTCCACAGTCC

268 bp 55.3C

1Ax24.4

NaC-262 TAACGCATGATTTCTTCACTGGTT,

NaC-263 ATCCCAAAGATGGCGTAGATGA

262 bp 54.9C

FIGURE 2 (cont'd)

1Ax24.5  
NaC-308, TGAGAAATAGGCTAAGGACCTCTA,  
NaC-309 CCTAGGGGCTGGATTCC  
244 bp 53.2C

1Ax24.6  
NaC-310, AAGGGGTGCAAACCTGTGATTTT,  
NaC-311 AGGGCCATGTGGTTGCCATAC  
252 bp 53.4C

1Ax24.7  
NaC-312 CTTCCGGTTTATGTTTTTCATTTCT,  
NaC-313 TCTTTATTAGTTTTGCACATTTTA  
278bp 48.4C

1Ax24.8  
NaC-364 CAATCCTTCCAAGGTCTCCTATC,  
NaC-365 TTTCATCTTTGCCTTCTTGCTCAT  
326bp 52.4C

1Ax24.9  
NaC-366 CATGTCCACTGCAGCTTGTCCA,  
NaC-367 TCCCCTTTACACAGAGTCACAGTT  
292bp 53.1C

FIGURE 2 (cont'd)

a. Glu1238Asp:  
normal: GCA TTT GAA GAT ATA;  
patient R10191 with IGE: GCA TTT GAC GAT ATA.

b. Ser1773Tyr:  
normal: ATC ATA TcC TTC CTG;  
patient R9049 with IGE: ATC ATA TmC TTC CTG; TCC>TAC

FIGURE 3



2Ax00.1 NaC-235 ATGGGTTGAATGACTTTCTGACAT, NaC-236  
AGGCATTTCTGTACAGGGACTAC  
266bp 52.7C

2Ax00.2 NaC-237 ACAGGAAATGCCTCTTCTTACTTC, NaC-238  
TTTCCCCAAGGATTCTACTACTGT  
277bp 50.6C

2Ax01 NaC-100, AGTGCATGTAACTGACACAATCAC, NaC-101,  
CTTGCGTTCCTGTTTGGGTCTCT  
241 bp 53.7C

2Ax01 NaC-11 TCCGCTTCTTTACCAGGGAATC, NaC-102,  
AGGCAGTGAAGGCAACTTGACTAA, 259  
bp 55.1C

2Ax02 NaC-96, CAGGGCAATATTTATAAATAATGG, NaC-97,  
TTTGGAATAATGTGTAGCTCAATAA,  
289 bp 48.7C

2Ax03 NaC-43, AAGGCATGGTAGTGCATAAAAG, NaC-44,  
ATGAAACATAAAGGGAGGTCAA, 201  
bp, 49.3°C

2Ax04 NaC-47, AATGTGAGCTTGGCTATTGTCTCT, NaC-48,  
ATAGGCTCCCACCAGTGATTTAC,  
213 bp, 50.9°C

2Ax05 NaC-49, AGGCCCCTTATATCTCCAAGT, NaC-50,  
CAACAAGGCTTCTGCACAAAAG, 241  
bp, 53.9°C

2Ax05.2 NaC-110, CTTGGTGGCTTGCCTTGAC, NaC-111, TCATGAGTGTCGCCATCAGC,  
223  
bp, 51.1C

2Ax05.3 NaC-112, GGAAAGCTGATGGCGACACT, NaC-113,  
CTGAGACATTGCCCAGGTCC, 329  
bp 53.0C

FIGURE 4

2Ax05.4 NaC-114, TTTTACCCGTTGCTTTCTTTA, NaC-115,  
TATCCCTTGCTCTTTCATTTATCT  
224bp 50.9C

2Ax06.1 NaC-169, GCCGGTAAAATAGCTGTTGAGTAG, NaC-170,  
GCCATTGCAAACATTTATTTTCGTA 206bp 53.3C

2Ax06.2 NaC-171, GCGTGTTTGCGCTAATAG, NaC-172,  
CTAAGTCACTTGATTACATCTAA  
295bp 48.0C

2Ax07 NaC-196, ACAGGGTGGCTGAAGTGTTTAA, NaC-197,  
GTGGGAGGTGGCAGGTTATT, 199  
bp, 52.6C

2Ax08 NaC-118, CAATTAGCAGACTTGCCGTTATT, NaC-119,  
TCTCTTGAGTTCGGTGTTTTATGA  
252bp 52.9C

2Ax09 NaC-120, ACCGAACTCAAGAGAATTGCTGTA, NaC-121,  
AAAGGACCGTATGCTTGTTCACTA  
334bp 52.9C

2Ax10a.1 NaC-161 TATGAATGCGCATTTTACTCTTTG, NaC-156  
TGGAGCTCAACTTAGATGCTACTG  
286 bp 52.1C

2Ax10a.2 NaC-13 GGTGCTGGTGGGATAGGAGTTTTT, NaC-162  
TCCATTAAATTCTGGCATATTCTT,  
316 bp 50.9C

2Ax10b.1 NaC-145 TCAGAGGGGTGCTTTCTTCCACAT, NaC-14  
CTTCGGCTGTCATTGTCCTCAAAG,  
298bp 55.6C

2Ax10b.2 NaC-146, GCAAAGGACATTGGCTCTGAGAAT, NaC-  
147, CTGCCTGCACCAGTCACAACTCT  
324bp 59.4C

FIGURE 4 (cont'd)

2Ax10c NaC-190, TGGGCTTTGCTGCTTTCAA, NaC-191,  
AGTAACTGTGACGCAGGACTTTTA, 218  
bp 51.5C

2Ax11.1 NaC-148, CCCTGTTCTCCAGCAGATTA, NaC-70  
GTGATGGCCAGGTCAACAAA, 283  
bp, 51.5C

2Ax11.2 NaC-149, TTTGATTTGGGACTGTTGTAAAC, NaC-  
150, AAGGCAATTATAAACTCTTTCAAG  
233bp 52.0C

2Ax12 NaC-159, TGGGAGTTAAATTAAGTTGCTCAA, NaC-160,  
ACATTTTATGAACACTCCCAGTTA  
285bp 50.4C

2Ax13.1 NaC-239 ATTAACACTGTTCTTGCTTTTAT, NaC-240  
GTGCCAGCGTGGGAGTTC 239 bp  
51.1C

2Ax13.2 NaC-241 GTGGGGGCTCTAGGAAACCT, NaC-242  
TTTAATGAAAATGAGGAAAATGTT 324  
bp 53.7C

2Ax14.1 NaC-134, GACCAAGCATTTTTATTTTCATTC, NaC-135,  
AGTGGCAGCAAGATTGTCA 234  
bp, 49.6C

2Ax14.2 NaC-136, GGCCTTGCTTTTGAGTTCC, NaC-137,  
GGTCTTTGCCTATTTCTATGGTG, 257  
bp, 51.1C

2Ax14.3 NaC-266, TTAAACCGCTTGAAGATCTAAATA, NaC-267  
TATACACCAAAATATCTCCTTAT  
319bp 48.5C

2Ax15 NaC-314 GGGGCACACCTAATTAATTTTAT, NaC-315  
AAAGAGGATACTCAAGACCACATA  
(247bp) 51.5C

FIGURE 4 (cont'd)

2Ax16 NaC-344 CCCACCAACACAAATATACCTAAT, NaC-345  
TGAAGGGAAAGGGAAAAGATTT  
283bp 52.2C

2Ax17 NaC-346 TCCAGCCTTAGGCACCTGATAA NaC-347  
ATAAAGCAGCAAAGTGCAGCATAC 310bp  
52.4C

2Ax18 NaC-348 AAGGCTGAACTGTGTAGACATTTT NaC-349  
TGACATTTCCATGGTACAAAGTGT  
262bp 52.2C

2Ax19.1 NaC-350 TTTGTTGTTGGCTTTTCACTTAT NaC-351  
CCACCTGGCAGTTTGATTG 268bp 51.9C

2Ax19.2 NaC-352 TAAGCGTGGTCAACAACACTACAGT NaC-353  
ATTCTTGCCAGCATTTATTGTC  
260bp 50.2C

2Ax20 NaC-354 CAAAACATTGCCCCAAAAG NaC-355  
TCAAACATAACAATTTCCCTCTAA 239 bp 48.1C

2Ax21 NaC-306, GATAATTAAAACTCACTGATGTA, NaC-307  
GGAGGCTAAAGGAAAGAGTATG  
288bp 46.6C

2Ax22 NaC-356 ATTTTATAGCCAGCAAAGAACAC NaC-357  
CTAGAAATTCGGGCTGTGAA 230 bp 49.6C

2Ax23.1 NaC-358 CTGCTTTGTGACCTAAGGCAAGTT NaC-359  
GTGACCATGTTAAGGCAGATGAGG  
290bp 51.4C

2Ax23.2 NaC-360 GGAATGGTCTTTGATTTTGTAACC NaC-361  
TCCTTAACTGAATAAAAGCACCTC  
290bp 51.6C

2Ax24.1 NaC-207 TGGAACACCCATCAAAGAAGATACT, NaC-208  
GTGGGAGTCCTGTTGACACAAAC  
278bp 52.8C

FIGURE 4 (cont'd)

2Ax24.2 NaC-209 AGCGATTCATGGCATCAAAC, NaC-210  
ACGTGGTGGAAGGCGTCATA 270 bp,  
52.9C

2Ax24.3 NaC-211 GCGACCCAGTTTATAGAGTTTGCC, NaC-212  
CTTGTTTGCGTTTCAACGTGGTC  
289bp 56.1C

2Ax24.4 NaC-213 CAAAGATCACCCCTGGAAGCTCAGTT, NaC-214  
ATCCAGGGCATCTGCAAAATCAGAA  
277bp 55.8C

2Ax24.5 NaC-215 TGCCTATGTTAAGAGGGAAGTTGGG, NaC-216  
ATGACCGCGATGTACATGTTTCA  
279bp 55.3C

2Ax24.6 NaC-278 TCAATTGTTTACAGCCCGTGATG, NaC-279  
TTTATACAAAGGCAGACAACAT  
302bp 52.0C

2Ax24.7 NaC-280 AGGCGTAATGGCTACTCAGACGA, NaC-281  
GTAATCCCTCTCCCCGAACATAAAC  
251bp 53.8C

2Ax24.8 NaC-282 TTTGATTACGGGTTGTTTACTCTTA, NaC-283  
TTCTATGGAACATTTACAGGCACATT 294bp 52.1C

2Ax24.9 NaC-284 TAATGTGCCTGTAAATGTTCCATAGA, NaC-285  
CAGGCTTCTTAGAAAGGACTGATAGG 264bp 50.6C

2Ax24.10 NaC-286 GTCCCAGCAGCATGACTATC, NaC-287  
CCCACTGGGTAAAATTACTAAC 249bp  
49.4C

2Ax24.11 NaC-288 TAGCCATCTTCTGCTCTTGGT, NaC-289  
TGGCTTCCCATATTAGACTTCTG  
307bp 51.3C

2Ax24.12 NaC-290 TCTTGCCTATGCTGCTGTATCTTA, NaC-291  
AGTCGGGCTTTTCATCATTGAG  
207bp 51.8C

FIGURE 4 (cont'd)

2Ax24.13 NaC-292 TTCTTCATGTCATTAAGCAATAGG, NaC-293  
TTCAATTTAAAAGTGCTAGGAACA  
299bp49.4C

2Ax24.14 NaC-294 CTTCAGGTGGATGTCACAGTCACTA NaC-295  
ATTCAAGCAATGCCAAGAGTATCA  
263bp51.5C

2Ax24.15 NaC-296 CTTTCAATAGTAATGCCTTATCAT NaC-297  
TCCTGCATGCATTTACCAAC  
348bp 49.6C

2Ax24.16 NaC-362 CTGTTACATTTTGTA AAACTAAT, NaC-263  
ATCCCAAAGATGGCGTAGATGA  
309 bp 50.8C

2Ax24.17 NaC-325 CACGCTGCTCTTTGCTTTGA, NaC-363  
GATCTTTGTCAGGGTCACAGTCT 269  
bp 54.0C

FIGURE 4 (cont'd)

a. Lys908Arg:  
normal: TAC AAA GAA;  
9782 (Patient with IGE): TAC AGA GAA;

b. leu768val, in individuals 8197, 9062 et 9822 (all IGE patients).

FIGURE 5

3Ax00a.1 NaC-390 TGTGTCCGCCAGTAGATGG, NaC-391  
TTTTTGACCACAGAGGTTTACAA 233bp  
51.4C

3Ax00a.2 NaC-392 GAAGCGGAGGCATAAGCAGA, NaC-393  
GGTGCAGATAATGAAATGTTTTGT  
253bp 51.3C

3Ax00b NaC-394 CACCCCTATGCCAAATGTCAAAGA NaC-395  
CAAAAACAACTTATACCCAGAAG  
293bp 51.6C

3Ax00c NaC-396 CAAATATTGGGCAAACCCTAAT, NaC-397  
AAGGTGCCATCACAAAATCAT 225bp  
50.7C

3Ax01.1 NaC-51 ATCGCTTGCTTTCCTAACTCTTGT, NaC-52  
AAGTCACTATTTGGCTTTGGTTG,  
260bp, 53.1C

3Ax01.2 NaC-53 AGAAGCCCCAAAAAGGAACAAGATA, NaC-54  
GGCCCAGAAAAGTATATTACAGTT,  
231bp, 50.8C

3Ax02 NaC-85, TCCTTAAATAAGCCCATGTCTAAT, NaC-86,  
TCTCAAAGAAATTTTACAGATACT,  
273bp, 47.3C

3Ax03 NaC-27, AATGGCCATGGTAACCTACTAACA, NaC-28,  
CAGGCTATACCCACAAGGAGATT,  
212 bp 51.8C

3Ax04 NaC-94, TGTTAATTTTGGCTTGGATGTT, NaC-95,  
TCACTCCTTTGCGCTTATCAA, 198 bp  
50.8C

3Ax05.1 NaC-247, AGGGCTCTATGTGCCAAACC, NaC-248,  
AGGGGCCTACTACCTTACACCAG 213  
bp 52.2C

FIGURE 6



3Ax05.2 NaC-249 TGTAATCCCAGGTAAGAAGAAAC, NaC-250  
TACCGGGATGAACTGTAATAATAA  
304 bp 51.8C

3Ax06.1 NaC-192, TTCTGGCACTCTTCCTCAGGTAAC, NaC-  
193, GTCCCATTTGAATCCATTGTGC,  
261bp 55.4C

3Ax06.2 NaC-194, GGCCCCCAAGCGATTCTG, NaC-195,  
TGTACACCCACAGTCTCAACTATT,  
209bp, 50.3C

3Ax07 NaC-204, ACAGCCACCTTTGTAAATAA, NaC-205,  
TTTTTCGCAAAGAGTTCTAT  
220 bp, 46.6C

3Ax08 NaC-98, AAAGTACCCTACCTCCATTTCTC, NaC-99,  
ACTCAGCCTATGCTTTTCATTTC,  
247 bp 53.2C

3Ax09 NaC-37 CAGATATTTATTTGGGGACATTAT, NaC-38  
AAATCTTTGCKTTTATCACTCAGT, 295  
bp, 52.0C

3Ax10a.1 NaC-198 TAGTGCCTGGCTTTGTTTTATGAC, NaC-199  
CGGATTTGGGAAAGCTGTCTCT  
225 bp 54.3C

3Ax10a.2 NaC-200 AGAGCACCTTGAAGGAAACAACAA, NaC-274,  
TCCCTCAACTGAAGTACAGATAGT, 253 bp 51.2C

3Ax10b NaC-33, ATAATTGCGTTCTTCCCCTACCC, NaC-34,  
AAGCCCTGGCACCATCCTG, 301  
bp, 56.2°C

3Ax10c NaC-35, \_TTTGCAAAGAAATGCTATGT, NaC-36,  
CTGGGTAACAGACTTCAGTAAT, 303  
bp, 51.4°C

3Ax11.1 NaC-122, ATGGGATTGTCTTCTCAAGTTTCT, NaC-123,  
GATGGCAAGATCAACAAATGGA  
294bp 50.3C

FIGURE 6 (cont'd)

3Ax11.2 NaC-124, CTTGATCTGGGACTGCTGTGATG, NaC-125,  
AGGATATAATTTTTGGTTCAACA  
284bp 51.5C

3Ax12 NaC-61, TTTTCAGTGCTCTTGATAGTAGTG, NaC-62,  
GTGCCAATGAGCGACAGG, 254 bp,  
50.7°C

3Ax13.1 NaC-73, CCACGTGTGGTTCTATGATACC, NaC-74,  
ACCGTGGGAGCGTACAGTCA 298 bp  
52.3C

3Ax13.2 NaC-75, CGGCATGCAGCTCTTTGGTA, NaC-76,  
TGGCCACGTTCCCTAGCTACTGTC 291  
bp 55.9C

3Ax14.1 NaC-55, GAGTTCCCTTTTTAGGCTGTTATT, NaC-56  
TCTTATTGCCTTCATGGATTTCTA,  
285bp,50.5C

3Ax14.2 NaC-57, TGAAAAATAAGATGCGGGAGTG, NaC-58,  
GTGAGGCTGGGGTTGTTTATG, 247  
bp, 51.7C

3Ax14.3 NaC-59, GAGATGGGAATGGAACCACCA, NaC-60,  
TTCGATAATGCATATAAGCACAA, 297  
bp, 51.7C

3Ax15 NaC-318 AAGGGGGAAAATCACATCTTT, NaC-319  
TTAAATGAGGCATATTCAGTCTCC 235bp  
51.8C

3Ax16 NaC-116, GGAAGTGGAGTGGGGAAGG, NaC-117,  
ATTCTTGCCAATATGCATTTCACT, 271  
bp, 51.1C

3Ax17 NaC-157, TTCTTTTGTACTCACTATTATACTAA, NaC-  
158, AAACCTTGCCCTCTTTTAAAAACAAT  
317bp 46.6C

3Ax18 NaC-374 TACCACACCCTATACCTTCAGTCA, NaC-375  
GAGTATGGCACCCCTTTTCTATCTA  
275bp 51.4C

FIGURE 6 (cont'd)

3Ax19.1 NaC-386 GCTATGTTCCCCTCGCTGTCT, NaC-387  
TGCTTGCCAAGAGCCTGAC  
231bp 53.6C

3Ax19.2 NaC-388 GCTGGCAAGTTCTACCACTGTG, NaC-389  
CAAACGAAGAACATCAGGGAAATA  
247bp 53.0C

3Ax20 NaC-376 TTCACAATATTGTACAAAAAGTTA, NaC-377  
ATTACCACCAATATTCACCATAAG  
230 bp 46.4C

3Ax21 NaC-378 TCAGGGTAAGGCAAAAGTAGCAC, NaC-379  
GAACCCCAGAATGAAGAAAGGTAA 294  
bp 50.2C

3Ax22 NaC-380 TTTGTGAAAGTACTATTGGAACAC, NaC-381  
ACGCATGGCTTTGGAACAT 204bp 49.6C

3Ax23.1 NaC-382 CCCGTATGTGGAAGGGCTTTAT, NaC-383  
CTAGGTTGATCCGGGACAAACTA  
246bp 52.9C

3Ax23.2 NaC-384 AACGGATGACCAGGGCAAATAC, NaC-385  
CTAGAAGGTCCTGGGGCAACTG  
234bp 54.8C

3Ax24.1 NaC-317 AAGCCATCATGTAAAGTGAAAAG, NaC-320  
ATCCCAAAGATGGCATAGATA 274  
bp, 52.5C

3Ax24.2 NaC-325 CACGCTGCTCTTTGCTTTGA, NaC-326 TGAGCTGCCAGGGTGAATTG  
282 bp 54.9C

3Ax24.3 NaC-327 TTGCTAGCACCTATTCTTAATAGTGC NaC-328  
CCAGGGCAGCTGCAAAATCAGAG  
318bp 54.2C

3Ax24.4 NaC-329 CCCGATGCGACCCAGTTTA, NaC-330 TGGAGGGGTTTGATGCCATA  
250 bp, 55.2C

FIGURE 6 (cont'd)

3Ax24.5 NaC-331 GATGGATGCCCTTCGAATACAGA, NaC-332  
TTCCCATTTAGTTTGTCAATAATC  
258 bp 50.6C

3Ax24.6 NaC-321 AAGGGGAGGATTGACTTACCTAT, NaC-333  
TTGGCATGGACCTCCTCTTGA 302  
bp 51.5C

FIGURE 6 (cont'd)

a. Asn43DEL:

9706 (allele 1; IGE patient): CAA GAT AAT GAT GAT GAG ;

9632 (allele 2; patient has IGE): CAA GAT --- GAT GAT GAG ;

allele 1 = 131/146 (0.90);

allele 2 = 15/146 (0.10);

for IGE patients: homozygotes (22): 3958, 9632; heterozygotes (12): 9049, 9152, 9649, 9710, 9896, 10069, 10191, 10213, 9993, 10009, 10256 (note that 2 patients are homozygous for the rare allele; all patients have IGE); in controls: allele 1 = 45/154 (0.94); allele 2 = 9/154 (0.06) and no 22 homozygotes found.

b. normal:                   tggtgtaaggtag,

10670 (IGE patient): tggtataaggtag

c. normal:                   ccccttatatctccaac,

10250 (IGE patient): ccccttatayctccaac;

d. Val1035Ile:

normal:                   AAA TAC GTA ATC GAT,

9269 (IGE patient):   AAA TAC RTA ATC GAT; GTA>ATA = Val>Ile.

FIGURE 7